

## CLAIMS

1. A method of phosphorodiamidite production which method comprises the steps of reacting a phosphorus trihalide with a dialkyl amine in a polar solvent to form an intermediate compound and subsequently reacting the intermediate compound with a hydroxyalkyl compound and a dialkyl amine, in the presence of a non-polar co-solvent.
2. A method as claimed in Claim 1 in which the phosphorus trihalide is phosphorus trichloride.
3. A method as claimed in Claim 1 in which the phosphorus trihalide is phosphorus tribromide.
4. A method according to any one of Claims 1 to 3 in which the dialkyl amine is diisopropylamine.
5. A method as claimed in any one of Claims 1 to 3 in which the dialkyl amine is selected from the group consisting of dimethylamine, diethylamine, di-n-propylamine, di-n-butylamine, di-isobutylamine or di-tert-butylamine.
6. A method as claimed in any one of the preceding claims in which the polar solvent is a nitrile compound.
7. A method as claimed in Claim 6 in which the nitrile compound is acetonitrile.
8. A method as claimed in Claim 6 in which the polar solvent is propionitrile or benzonitrile.

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9. A method as claimed in any one of the preceding claims in which the hydroxyalkyl compound is hydroxypropionitrile.

10. A method as claimed in any one of Claims 1 to 8 in which the  
5 hydroxyalkyl compound is methanol or tert-butyl alcohol.

11. A method as claimed in any one of Claims 1 to 10 in which the alkane co-solvent is a C<sub>5</sub> to C<sub>9</sub> aliphatic hydrocarbon.

10 12. A method as claimed in any one of Claims 1 to 10 in which the alkane co-solvent is an alicyclic hydrocarbon.

13. A method according to any one of the preceding claims in which the ratio of polar solvent to non-polar solvent is 1:1.

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14. The use of a compound as made by the method of claim 1 in the synthesis of oligonucleotides.

15. A method of phosphorodiamidite production, substantially as  
20 hereinbefore described with reference to the Examples.

16. The use of a phosphorodiamidite compound, substantially as hereinbefore described with reference to the Examples.

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